Title:

Portable PC Keyboard and Mouse Tray

Cross reference to related applications

Not Applicable

Federal Sponsored R & D

Not Applicable

Reference to Sequence Listing, A Table or Computer Program Listing Appendix.

Not Applicable

Background of Invention

With the wide spread popularity of personal and laptop computers, it is nearly impossible for consumers to be without them. More and more of these consumers are finding themselves in extremely uncomfortable positions when traveling, resting or working due to the lack of an uninhibited, unrestrictive workstation device.

All computers and laptops are equipped with a needed keyboard and/or mouse. There is no equipment available that provides infinite adjustments in tilt and angles without the use of clips and/or panels to obtain needed individual settings for comfort.

This invention relates to the attachment of a form fitting interchangeable cushion to a portable workstation designed to hold & secure a computer keyboard and mouse or laptop computer on the users lap which provides a contoured fit unique for each user without changing any apparatus from user to user. This utility provides an unlimited number of angles of tilt for individual comfort and posture improvement which will help relieve fatigue in the leg area due to balancing and supporting the laptop computer as well as providing insulation from the heat that laptop computers generate. This invention can be adjusted without disassembly of the device or removal of the computer or keyboard.

In some cases, disassembly is needed to achieve an adjustment to the tilt of the workstation, (such as patent # US6,305,652, B1 Borke). In this example, the user must remove the laptop and work station from their lap to adjust the position whereas with the present invention adjustments can be made without removal of the laptop or workstation by gentle rocking the cushion to achieve a custom contour. In addition the Borke design has a definite number of angles that can be achieved where as with this invention the number of angles is truly unlimited.

Inventors such as John T Dutra, Jr, (patent # 5,553,824), adjustable length laptop computer tray assembly, created a workstation that is adjustable in length but remains rigid in

construction , has no tilt or posture adjustments, and can not achieve a custom contour as with the present invention's interchangeable cushion when attached to the workstation.

The Pilot's Desk, (patent # 5,542,360 - inventor James Fleming), is for use in an aircraft and is permanently attached indirectly to the seat rails. It has no accommodations for laptop computer use, keyboard and mouse, is rigid in construction offering no adjustment for tilt, position or comfort as with the present invention's interchangeable cushion when attached to the workstation.

The Lapboard/Patient Restraint Device is a device designed with a flat surface which rests on the arms of a the medical apparatus. It is fixed into position with straps attached to the rear of the chair, holding the board flat to the arms of the chair. There is no possibility of adjustment in any way as with the present invention's interchangeable cushion when attached to the workstation.

Patent # 4,864,787, inventor Stanley Bulowski, shows an inter-locking corner structure for siding used on residences and other buildings with "Lapboard" style siding. In this case, the interlocking construction refers to the joining of "Lapboard" style vinyl panels to each other to side a structure unlike the present inventions use of inter-locking nylon fiber hook and loop, (such as Velco brand hook and Loop), attached to the interchangeable cushion and workstation. This assembly enable the user to infinitely adjust the tilt, position and comfort of the workstation

Other inventors have developed workstations that attaches to an existing desk ledge with the use of clamps and other attaching devises, (As in patent #6,158,359), which becomes ineffective after extended periods of computer use. There is still an undue strain placed on the

user's back, shoulder and eyes, (due to the position of the "extension " off of the existing desk.).

Several types of detached workstations have been proposed – for example in US patent - 5,735,222,. Although intriguing to the eye, they do not support the proper alignment and position need for user comfort followed by examples

Patent number 6,305,652B1, where Borke shows a Laptop Support Tray with 6 fixed or pre-selected position adjustments for tilt. This limited adjustment application differs in that it may not be suitable for all users due to their unique size, shape and posture. Furthermore, due to the fixed panel construction, users must pre-select or guess their comfortable tilted position and can not adjust for a better fit without dismantling the panel system and reconstructing it.

a) There manufacture does not allow for the user to adjust the tilt and angle for optimum comfort to the individual user. There is no flexibility to the user in regards to mobility. Since the pole extensions or leg supports must be placed between or around the legs of the user, thus movement is restricted.
b) If one uses a permanently attached workstation, there is a concern for the left handed user, which would need to use the mouse on their left side (their natural master of motor skills.)
c) There has also been a proposal utilizing a tray designed with extruded walls (See patent #D427,165). This is not made for the best posture or comfort of the user since this tray must be used with in the confines of the users desk; there is no advantage to

the user due to the lack of adjustability. No tilt or positional adjustments can be made for individual comfort.

d) Patent number 6,305,652B1, Borke shows a Laptop Support Tray with 6 fixed or pre-selected position adjustments for tilt. This limited adjustment application differs in that it may not be suitable for all users due to their unique size, shape and posture. Furthermore, due to the fixed panel construction, users must pre-select or guess their comfortable tilted position and can not adjust for a better fit without dismantling the panel system and reconstructing it.

Summary

In accordance with the present invention, a portable keyboard and mouse or laptop workstation comprised of a solid piece of wood with recessed areas to accommodate a keyboard and mouse or laptop. An attached filled bag on the underside of the board provides the stability with an infinite amount of adjustability that is needed for individual comfort. The opportunity of wrist and shoulder strain demonstrated in the above section is greatly reduced by allowing the user to place the keyboard and mouse or laptop comfortably on their lap. By positioning the filled bag, the user can adjust the tilt and position of the workstation to greatly reduce shoulder, wrist and posture strain without disassembly or removal of the equipment..

Besides the objects and advantages of the portable keyboard and mouse or laptop workstation described in my above patent, several objects and advantages of the present patent are to:

1. Provide a stable workstation to be used on any surface, including a persons lap, and still offer the advantage of obtaining a comfortable angle to help reduce wrist stress and posture strain by achieving a custom contour with the present invention's interchangeable cushion when attached to the workstation.
2. Provide a stable workstation for laptop computers for use on any surface, including a persons lap, and still offer the advantage of obtaining a comfortable angle to help reduce wrist stress and posture strain by achieving a custom contour with the present invention's interchangeable cushion when attached to the workstation..
3. Provide the proper workstation for left handed users by situating the mouse area to the left of the user. Until now there are no portable left-handed workstations that offer this advantage and can be used on any surface, including a persons lap, and still offer the advantage of obtaining a comfortable angle to help reduce wrist stress and posture strain by achieving a custom contour with the present invention's interchangeable cushion when attached to the workstation.
4. Provide a workstation for infra-red keyboard users that is truly portable and can be used in any comfortable position whether on floor, couch, bed, or chair by using the present invention's interchangeable cushion when attached to the workstation..
5. Provide a workstation that will match any room décor by offering a variety of wood tones and fabric choices to meet the individuals' tastes and desires with the present invention's interchangeable cushion when attached to the workstation .

6. Provide a portable workstation that can be treated as a piece of fine furniture and become part of the computer room fixtures without looking out of place .
7. Provide a portable workstation that can easily be put away without having to remove cumbersome clamps, cables, tripods, and other connecting devices that must be mounted to the desktop.
8. Provide a portable workstation that helps reduce the unnecessary strain on the individual's shoulder by having to reach for the mouse while working at the computer by achieving a custom contour with the present invention's interchangeable cushion when attached to the workstation .
9. Provide a portable workstation that reduces back strain by improving ones posture while sitting in front of the computer, by letting the individual sit in a more upright position with his / her back straight and securely in their chair achieving a custom contour with the present invention's interchangeable cushion when attached to the workstation.
10. Provide a portable workstation that lets the user sit further back from the computer monitor thus helping to eliminate unnecessary eyestrain caused by sitting too close to the monitor screens and still achieve a custom fit while reducing shoulder and wrist strain when utilizing the present invention's interchangeable cushion attached to the workstation.

Brief Description of the Drawings

Figures 1A to 1B show various aspects of the cloth bag supplied with liner and fill. Figure 2A to 2B show various aspects of the Portable PC keyboard and mouse tray showing the recessed areas to accept the users keyboard and mouse and the attached filled cloth bag..

Reference Numerals :

1. Recessed Keyboard Area
2. Recessed Mouse Area
3. Cloth Border
4. Portable PC keyboard and mouse tray
5. Dividing wall
6 Filled Cloth Bag
7. Outer Shell Material
8. Liner
9. Fill

Preferred Embodiment

A preferred embodiment of the Portable PC keyboard and mouse tray of the present invention is illustrated in Figure 1Aand 1B. The Portable PC keyboard and mouse tray has a recessed Keyboard Area **1** and a recessed mouse area **2** separated by a dividing wall **5.** The filled cloth bag **6** is attached to the back of the Portable PC keyboard and mouse tray board **4** and a strip of cloth boarder **3** is added. Figure 2A illustrates the Filled Cloth Bag **6** and the Cloth Boarder **3**. Figure 2B illustrates the construction of the Filled cloth bag by showing the Outer Shell Material **7**, the Liner **8** and the Fill **9**.

Detailed Description

The first form fitting Portable PC Keyboard and Mouse Tray is fabricated of wood with compartments routed out to hold the keyboard and mouse pad or laptop computer A filled cloth bag is attached to the underside for comfort and stability allowing infinite angles of tilt. . The bag is filled with polystyrene balls and or batten, and or foam fill.

The portable PC keyboard and mouse tray is made from a 1" x 12" x 3/4" pine. It has a 32" x 11" form filled bag attached to the bottom with Velcro brand hook and loop material. The overall finished dimensions of the board used for keyboard and mouse applications are as follows:
32" long by 11 1/4" wide by 3/4" thick with two areas routed out for the keyboard, 9 1/4" long and 8 1/2" wide and 1/2" deep, and the mouse 8 1/2' wide by 8 1/2" long and 1/4" deep A 5/8" wall separates them
The laptop model is as follows:
22" long x 12" wide x 3/4" wide. The board has a recessed area 16" long x 11" wide x 1/4" deep for the laptop computer to rest in.

Outer edges of both models are rounded by using a router and a 1/2" rounder over bit. The board is sanded smooth and stained. Two coats of polyurethane are applied. This is now the finished tray.

Both models utilize the unique application of the present invention's interchangeable cushion to achieve a custom fit while reducing shoulder and wrist strain when attached to the workstation
The bag is made of cloth material that is filled with polystyrene and or batten and or foam fill. The bag is attached to the underside of the back edge of the tray with Velcro brand interlocking hook and loop material. A strip of cloth boarder is applied to the front of the interchangeable cushion for decorative purposes..
Although specific applications, materials, components, connection, sequences of events, and methods have been stated in the description of the preferred embodiment of the invention, other suitable materials, other applications., components and process steps as listed herein may be used in addition, it will be understood that various other changes in details, materials, steps,

arrangements parts and uses which has herein been described and illustrated in order to explain the nature of the invention will occur to and may be made by those skilled in the art be reading this disclosure, and such changes are intended to be included within the principles and scope of this invention what is claimed is